

**AMPEX**

# HS-200 Teleproduction System



Do your highband color editing faster, easier and more economically than film...with the computer-controlled

## HS-200 Teleproduction System

The Ampex HS-200 Teleproduction System is a significant step forward in video program production. This computer-controlled disc recorder lets you produce special effects that were previously possible only with film. And lets you do them faster and more economically.

Ampex pioneered color disc technology with the highly successful HS-100 instant replay recorder. The HS-200 is a natural outgrowth of this technology. Like its predecessor, the HS-200 plays back recorded material at normal, fast and slow speeds—even to stop action—in both forward and reverse modes. And it's fully compatible with NTSC, PAL, and SECAM color or monochrome video signals.

A computer in the HS-200 system virtually eliminates human error during editing. It locks to studio sync so there's no break-up in animation sequences or phase shift between frames. And it lets you handle material of any length, from short commercials to complete programs.

Some of its more significant capabilities include:



A magnetic disc recorder at the heart of the HS-200 captures pictures with highband VTR quality. You can study the freeze frame indefinitely without degrading the picture.



The computer controls on the HS-200 actually give each frame a number and "address" which can be displayed on a numerical readout. To assemble recorded material in the order you choose, simply locate the frame you want and cue it by using one or more of the memory stores.



The same computer logic can accept a preset command to freeze any individual frame or frames for a specific length of time. This allows tremendous flexibility in the production of program material as well as commercials.



By setting your HS-200 to record only every other frame, you achieve fast motion footage. Yet with the variable speed control, you can reduce it to normal or slow speed, even freeze frame.

The HS-200 converts to the HS-100 color, slow-motion sports recorder/reproducer.



## HS-200 significantly reduces production time

If you produce a commercial on film, you have to plan on two to four weeks production time. You can do the same commercial in less than a week with our HS-200 Teleproduction System. Frame-by-frame color animation takes even less time.

## A four-unit system

The HS-200 consists of four separate units: Disc Servo Unit, Output Processing Unit, Electronics Unit and System Console plus interconnecting cables.

The Output Processing Unit contains a standard Amtec\*, Colortec\* and processing amplifier.

The console houses a newly designed digital controller—the brain of the system.

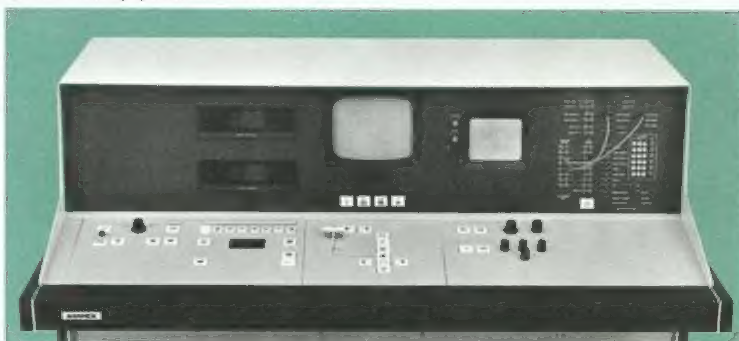
The major electronics are packaged in plug-in printed circuit modules.

And, except for the console, the entire system is easily portable.

You can arrange the control panels on the console in a left- or right-handed configuration. Or rack mount the panels in custom installations.

Ampex designed the HS-200 for easy operation. It's the most sophisticated teleproduction unit available.

\*T.M., Ampex Corporation



### COMPUTER LOGIC FOR SEQUENTIAL PRE-PROGRAMMING

A solid-state memory unit built into the HS-200 Teleproduction System receives up to 8 switching, mixing, editing commands and holds them until cued. Once the pre-programming is completely set, the HS-200 will assemble an entire segment flawlessly and completely automatically.

### VARIABLE FRAME ANIMATION ASSEMBLY

Animation can be pre-programmed and requires only two passes of videotape on the VTR. On the first pass, before using the HS-200, cues are recorded at the appropriate places on the tape during the take. On the second and final pass (while you're off on other programs) the HS-200 automatically completes the animation sequence using the VTR cues.

### AUTOMATIC DISSOLVES OF VARIABLE LENGTH

You can combine a second signal source with the output of the HS-200 without an external switcher. The Automatic Dissolver, new with the HS-200, provides virtually any number of dissolves, fades, or cuts. The dissolves range from 4 to 256 frames, and all work out of the computer timing logic for absolute accuracy.

### TWO-WAY REMOTE CONTROL

A computer-style patch panel lets you pre-program each of the HS-200's capabilities by internal or remote cues. The external memory stores can be set in sequential program mode to handle a series of cues in numerical sequence. Remote cues can also be routed to any of the functions provided by the HS-200 in any sequence or combination desired.

### BUILT-IN MONITORING

The HS-200 console includes a new type Tektronix 52B solid-state waveform monitor and a CONRAC 9" monitor, Model RNCA9. Additional outputs are provided for optional studio color monitors.

Get double mileage from your HS-200 Teleproduction System by using it on weekends for broadcasting sports and other events from remote locations. Just disconnect the HS-200 console, connect a HS-100 control and you're ready for the road with an HS-100. Weekend leasing can provide a profitable, extra income.

# HS-100/HS-200 specifications

## PHYSICAL CHARACTERISTICS

	Dimensions				
	H-200 Console	HS-100 Control Unit	Disc Servo Unit	Electronics Unit	Output Proc. Unit
Height	43"	11"	21"	21"	21"
Width	56"	8"	22"	22"	22"
Depth	35"	16"	23"	23"	23"
Weight	285 lbs.	15 lb.	185 lb.	175 lb.	160 lb.

\*Folds to 28".

**Temperature and Humidity** Temperature: 0°C to 45°C  
Humidity: 10% to 90% relative humidity

## Power Requirements

**Input Power:** 117V  $\pm$  10%, 50/60 Hz, 20A  
(taps at 105, 115, 125V).  
(230V, 50/60Hz, 10A for PAL and SECAM systems.)

## Signal Requirements

**Video Composite Signal:** 0.5 to 1.5V p-p (1.0V nominal) composite, sync negative, 75 $\Omega$  unbalanced.

**Sync Output:** 2 to 8V p-p (4V nominal) negative-going pulses, 75 $\Omega$  unbalanced.

**Subcarrier Reference:** 3.58 MHz (4.43 MHz, PAL or SECAM systems), 0.5 to 4.0V p-p, 75 $\Omega$  unbalanced.

**Line Identification:** 7.8 kHz, 2 to 8V p-p, square wave, 75 $\Omega$  unbalanced. (PAL and SECAM systems only)

## OPERATING CHARACTERISTICS

**Disc Rotation:** 60 r/s  
50 r/s (PAL and SECAM systems only)

**Storage Capacity:** 1800 fields (30 seconds)  
1800 fields (36 seconds) (PAL and SECAM only)

**Playback Speeds:** Normal,  $\frac{1}{2}$  speed,  $\frac{1}{4}$  speed, variable speed, freeze, frame advance; forward or reverse.

**Search Speed:** 4.5  $\times$  normal speed.

## Stability (before time-base correction)

**Jitter** (i.e., disturbance rates greater than 1 Hz):  $\pm$ 0.075  $\mu$ s.  
**Drift** (i.e., disturbance rates less than 1 Hz):  $\pm$ 0.1  $\mu$ s.

## Standards

**Standards Available:** 525 line, 60 fields/second, monochrome  
525 line, 60 fields/second, NTSC color  
625 line, 50 fields/second, monochrome  
625 line, 50 fields/second, PAL color  
625 line, 50 fields/second, SECAM color

## NOMINAL VIDEO RESPONSE CHARACTERISTICS (for normal-speed playback)

Monochrome Systems	525 Line	625 Line	Color Systems	525 Line	625 Line
Bandwidth	Flat to 3.8 MHz; -3 dB at 4.2 MHz; tolerance $\pm$ 1.5 dB	Flat to 4.2 MHz; -3 dB at 6.0 MHz; tolerance $\pm$ 1.5 dB	Signal-to-Noise Ratio	40 dB, p-p video to rms noise	37 dB, p-p video to rms noise
Signal-to-Noise Ratio	40 dB, p-p video to rms noise	40 dB, p-p video to rms noise	Differential Gain	Less than 10% Blanking to White	Less than 10% Blanking to White
Transient Response (Utilizing 2T Sine <sup>2</sup> Pulse)	Maximum K-factor 3%	Maximum K-factor 3%	Differential Phase	Less than 5° at 3.58 MHz	Less than 5° at 4.43 MHz
Low Frequency Linearity	2%, Blanking to White (maximum)	2%, Blanking to White (maximum)	Moiré (color bars 75% amplitude)	-37 dB maximum	-28 dB maximum
Rise Time (0.02 $\mu$ s or less rise time on Input Pulse)	0.12 $\mu$ s maximum	0.10 $\mu$ s maximum	*Specifications and characteristics are subject to change without notice.		